PUMS Planning Applications

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Why PUMS?

® Provides analyst greatest flexibility in creating customized tables
  ® Descriptive statistics of sub-markets
® Useful in testing disaggregate (individual record-based) models, e.g., vehicle availability models
® Necessary for "next generation" of land use / transport models, for purposes of synthetic population generation
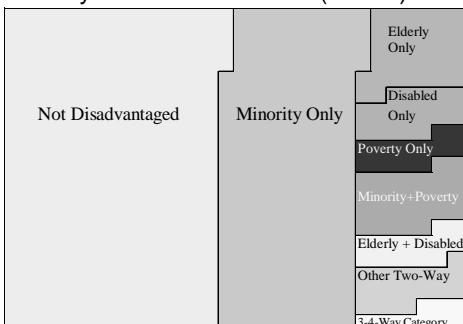® Disadvantage: Not able to relate PUMS to detailed neighborhood characteristics

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MTC Applications (1980)

® MTC contracted with State Data Center for specialized SAS runs
® Data needed for market segmentation adjustments in MTC travel demand models
® Household characteristics by 3 Income Groups by County
  ® Mean household income
  ® Persons per household
  ® Workers per household
  ® Number of Households

MTC Applications (1990)

® Data needed for market segmentation adjustments in MTC travel demand models
® Used in testing disaggregate auto ownership & workers in household choice models
® Used in Bay Bridge Congestion Pricing Study to analyze income of transbay commuters by means of transportation (bus vs drive alone vs rail)
® Used in analyzing characteristics (earnings, occupation, industry, sex) of Marin County work-at-home workers
® Used in MTC equity analyses to understand overlap between elderly, disabled, minority and poverty population

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Dimensions of Disadvantaged Population: SF Bay Area: 1990 Census (PUMS)

Not Disadvantaged | Minority Only | Elderly Only | Disabled Only | Poverty Only | Minority+Poverty | Elderly + Disabled | Other Two-Way | 3-4-Way Category

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Means of Transportation by Year of Immigration: California: 1990 PUMS

Year of Immigration	Percent Transit	Percent Bike/Walk
1987-1990	18.7%	11.1%
1985-1986	12.9%	7.8%
1982-1984	11.8%	4.5%
1980-1981	10.4%	4.8%
Pre-1980	6.0%	3.7%
Born in USA	3.3%	4.0%
TOTAL	4.9%	4.4%

Means of Transportation by Educational Attainment: Bay Area: 1990 PUMS

Educational Attainment	Percent Transit	Percent At Home
< High School	11.9%	2.3%
H.S. Grad	8.6%	2.6%
Some College / AA	8.0%	2.8%
Bachelors	10.8%	3.8%
Graduate	9.7%	4.5%
TOTAL	9.4%	3.1%

Ideas for County Planners (I)

- ® Housing quality study (bedrooms, plumbing, kitchen, home heating fuel, water, sewage, age of unit)
- ® Housing affordability study (income versus rental costs, mortgage costs, utility costs, property value, by tenure)
- ® Migration study (length of stay in current unit, where did person reside 5 years ago)
- ® Welfare to Work analyses (population in poverty by age, education, labor force status, family structure, income, language, housing costs)

Ideas for County Planners (II)

- ® Economic Development Analyses (characteristics of workers at PUMA-of-work: earnings, occupation, industry, age, sex, education, commute time, hours worked last week, means of transportation to work, arrival time)
- ® Labor Force Analyses (characteristics of workers and out-of-work persons by residence PUMA: earnings, occupation, industry, age, sex, education, commute time)

Ideas for Transit Operators

- ® Commuter analyses (characteristics of transit and non-transit commuters: age, sex, education, race/ethnicity, language, PUMA-of-work, family structure, travel time to work, vehicle availability, industry, occupation, worker class, income, departure time, transit sub-modes, disability, age of housing, structure type)
- ® Transit dependency studies (non-workers by characteristics: students, elderly, disabled, zero-vehicle households)

We'll Always Have PUMS

- ® If it isn't in SF3 or CTPP, and if the data was collected in the Census, then there's always PUMS!!!